

December 6, 2002

RE: Koch Fertilizer Storage & Terminal Company  
TO: Interested Parties / Applicant

107-16727-00053

FROM: Paul Dubenetzky  
Chief, Permits Branch  
Office of Air Quality

## Notice of Decision - Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office Environmental Adjudication, ISTA Building, 150 W. Market Street, Suite 618, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures



# INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

*We make Indiana a cleaner, healthier place to live.*

Frank O'Bannon  
Governor

Lori F. Kaplan  
Commissioner

100 North Senate Avenue  
P. O. Box 6015  
Indianapolis, Indiana 46206-6015  
(317) 232-8603  
(800) 451-6027  
[www.state.in.us/idem](http://www.state.in.us/idem)

December 6, 2002

Mr. Scott Christensen  
Koch Fertilizer Storage and Terminal Company  
7438 East County Road 800 S  
Walton, Indiana 46994

Dear Mr. Christensen:

Re: Exempt Operation Status,  
107-16727-00053

The application from Koch Fertilizer Storage and Terminal Company, received on November 1, 2002, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following ammonia terminal, to be located at 4576 U.S. 231 North, Crawfordsville, Indiana, is classified as exempt from air pollution permit requirements:

- (a) One (1) emergency ammonia flare, designated as FL1, constructed in 2002, fired by natural-gas, with a maximum capacity of 0.42 million British thermal units per hour.
- (b) One (1) emergency backup generator, constructed in 2002, with a maximum capacity of 8 kilowatts per hour.

The following conditions shall be applicable:

- (a) Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
  - (1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
  - (2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.
- (b) Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), the Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Pursuant to Contract No. A305-0-00-36, IDEM, OAQ has assigned the processing of this application to Eastern Research Group, Inc., (ERG). Therefore, questions should be directed to Kristin Clapp, ERG, 1600 Perimeter Park Drive, Morrisville, North Carolina 27560, or call (703) 633-1694 to speak directly to Ms. Clapp. Questions may also be directed to Duane Van Laningham at IDEM, OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call (800) 451-6027, press 0 and ask for Duane Van Laningham, or extension 3-6878, or dial (317) 233-6878.

Sincerely,

Original signed by Paul Dubenetzky

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

ERG/KC

cc: File - Montgomery County  
Montgomery County Health Department  
Air Compliance - Jim Thorpe  
Permit Tracking - Sara Cloe  
Technical Support and Modeling - Michele Boner  
Compliance Branch - Karen Nowak

## **Indiana Department of Environmental Management Office of Air Quality**

### **Technical Support Document (TSD) for a Exemption**

#### **Source Background and Description**

Source Name: Koch Fertilizer Storage and Terminal Company  
Source Location: 4576 U.S. 231 North, Crawfordsville, Indiana 47933  
County: Montgomery  
SIC Code: 4226  
Operation Permit No.: E107-16727-00053  
Permit Reviewer: ERG/KC

The Office of Air Quality (OAQ) has reviewed an application from Koch Fertilizer Storage and Terminal Company relating to the operation of an ammonia terminal.

#### **Permitted Emission Units and Pollution Control Equipment**

The source consists of the following permitted emission units and pollution control devices:

- (a) One (1) emergency ammonia flare, designated as FL1, constructed in 2002, fired by natural-gas, with a maximum capacity of 0.42 million British thermal units per hour.
- (b) One (1) emergency backup generator, constructed in 2002, with a maximum capacity of 8 kilowatts per hour.

#### **Unpermitted Emission Units and Pollution Control Equipment**

There are no unpermitted facilities operating at this source during this review process.

#### **New Emission Units and Pollution Control Equipment Receiving Prior Approval**

There are no new construction activities included in this permit.

#### **Existing Approvals**

The source has constructed or has been operating under the following previous approvals:

CP107-8974-00053, issued March 13, 1998

All terms and conditions from previous permits issued pursuant to permitting programs approved into the state implementation plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

The following terms and conditions from previous approvals have been determined no longer applicable; therefore, were not incorporated into this Part 70 permit:

All construction conditions from all previously issued permits.

Reason not incorporated: All facilities previously permitted have already been constructed; therefore, the construction conditions are no longer necessary as part of the operating permit. Any facilities that were previously permitted but have not yet been constructed would need new pre-construction approval before beginning construction.

Note that this source received CP107-8974-00053, issued March 13, 1998, because of the construction of two (2) ammonia heaters (H-1 and H-2), six (6) vaporizer units (V-1 through V-6) and two (2) flares (F-1 and F-2). The ammonia heaters and vaporizer units have since been removed. Additionally, the two flares have been replaced with one flare. This source now has emissions within the exemption level because of the removed units.

### Enforcement Issue

There are no enforcement actions pending.

### Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (°F)
F1	Flare	80	0.5	21.6	1200

### Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on November 1, 2002.

### Emission Calculations

See Appendix A (pages 1 through 3) of this document for detailed emissions calculations.

### Potential To Emit of Source Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	0.001
PM-10	0.001
SO <sub>2</sub>	0
VOC	0
CO	0.026
NO <sub>x</sub>	0.037

HAP's	Potential To Emit (tons/year)
TOTAL	Negligible

- (a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of criteria pollutants is less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.
- (b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of criteria pollutants is less than 25 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-6.1.
- (c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of pollutants is less than the levels listed in 326 IAC 2-1.1-3(d)(1), therefore, the source is subject to the provisions of 326 IAC 2-1.1-3 .
- (d) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is less than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

### County Attainment Status

The source is located in Montgomery County.

Pollutant	Status
PM-10	Attainment
SO <sub>2</sub>	Attainment
NO <sub>2</sub>	Attainment
Ozone	Attainment
CO	Attainment
Lead	Attainment

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Montgomery County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Montgomery County has been classified as attainment or unclassifiable for all criteria pollutants and lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Existing Source PSD, Part 70 or FESOP Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	0.001
PM10	0.001
SO <sub>2</sub>	0
VOC	0

Pollutant	Emissions (ton/yr)
CO	0.026
NO <sub>x</sub>	0.037

- (a) This existing source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) These emissions were based on the emission calculations include in Appendix A.

### Part 70 Permit Determination

#### 326 IAC 2-7 (Part 70 Permit Program)

This existing source, including the emissions from this permit, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAQ inspector assigned to the source.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.
- (c) This source is not subject to the provisions of 40 CFR 64, Compliance Assurance Monitoring. In order for this rule to apply, a specific emissions unit must meet three criteria for a given pollutant: 1) the unit is subject to an emission limitation or standard for the applicable regulated air pollutant, 2) the unit uses a control device to achieve compliance with any such emission limitation or standard, and, 3) the unit has potential pre-control device emissions of the applicable regulated air pollutant that are equal or greater than 100 percent of the amount required for a source to be classified as a major source. For this source, no facility has the potential to emit greater than 100 percent of the amount required for a source to be classified as a major source. Additionally, this source is not a Part 70 source. For these reasons, the requirements of 40 CFR 64, Compliance Assurance Monitoring does not apply.
- (d) The requirements of Section 112(j) of the Clean Air Act (40 CFR Part 63.50 through 63.56) are not applicable to this source because (1) the source is not a major source of HAPs (i.e., the source does not have the potential to emit 10 tons per year or greater of a single HAP or 25 tons per year or greater of a combination of HAPs) (and/or 2) the source does not include one or more units that belong to one or more source categories affected by the Section 112(j) MACT Hammer date of May 15, 2002.

### State Rule Applicability - Entire Source

#### 326 IAC 2-2 (Prevention of Significant Deterioration)

This source is not subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) because this source does not have the potential to emit greater than two hundred fifty (250) tons per year of any criteria pollutant and this source is not one (1) of the twenty-eight (28) listed source categories.

**326 IAC 2-4.1 (Hazardous Air Pollutants)**

This source is not subject to the requirements of 326 IAC 2-4.1 (Hazardous Air Pollutants) even though this source was constructed after July 27, 1997 because this source does not have the potential to emit greater than ten (10) tons per year of a single HAP or greater than twenty-five (25) tons per year of any combination of HAPs.

**326 IAC 2-6 (Emission Reporting)**

This source is located in Montgomery County and the potential to emit all criterion pollutants is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

**326 IAC 5-1 (Visible Emissions Limitations)**

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

**326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**

No facility at this source is subject to the requirements of 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) because the only sources of particulate emissions at this source are combustion and fugitive emissions from unpaved roads.

**326 IAC 6-4 (Fugitive Dust Emissions)**

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

**326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)**

This source is not subject to the requirements of 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations) because this source was constructed after 1985 and this source does not have the potential to emit greater than twenty-five (25) tons per year of fugitive particulate matter.

**326 IAC 8-1-6 (New Facilities - General Reduction Requirement)**

No facility at this source is subject to the requirements of 326 IAC 8-1-6 (New Facilities - General Reduction Requirement) even though this source was constructed after January 1, 1980 because no facility has the potential to emit greater than twenty-five (25) tons of VOC per year.

**Conclusion**

The operation of this ammonia terminal shall be subject to the conditions of the attached proposed Exemption 107-16727-00053.

**Appendix A: Emission Calculations**

App A, Page 1 of 3

**Flare Emissions**

**Company Name:** Koch Fertilizer Storage and Terminal Company  
**Address City IN Zip:** 4576 U.S. 231 North, Crawfordsville, Indiana 47933  
**Permit Number:** 107-16727-00053  
**Plt ID:** 107-00053  
**Reviewer:** ERG/KC  
**Date:** 11/14/02

Fuel Type: Natural Gas

**Pilot Idling (Natural Gas Combustion Only)**

Hours of Idling: 8,460 hr/yr  
Maximum Natural Gas Consumption by Flare: 16 ft3/hr  
Fuel Heat Content During Idling: 1,050 Btu/scf  
Maximum Natural Gas Consumption During Idling: 135,360 ft3/yr

Emission Factor in lb/ft3	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	7.60E-06	7.60E-06	6.00E-07	0.000	5.50E-06	8.40E-05
Flare Potential Emission in tons/yr	0.001	0.001	0.000	0.007	0.000	0.006

**Methodology**

Fuel heat content during idling is 1,050 Btu/scf.

Emission Factors are from AP42 (Supplement B 10/96), Table 1.4-1

Emission (tons/yr) = Natural Gas Consumption (ft3/yr) x Emission Factor (lb/ft3) / 2,000 lb/ton

**Appendix A: Emission Calculations**

App A, Page 2 of 3

**Flare Emissions**

**Company Name:** Koch Fertilizer Storage and Terminal Company  
**Address City IN Zip:** 4576 U.S. 231 North, Crawfordsville, Indiana 47933  
**Permit Number:** 107-16727-00053  
**Plt ID:** 107-00053  
**Reviewer:** ERG/KC  
**Date:** 11/14/02

**Flaring (Ammonia and Natural Gas Combustion)**

Hours of Flaring: 300 hr/yr  
Maximum Natural Gas Consumption by Flare: 1,716 ft3/hr  
Fuel Heat Content During Flaring: 390 Btu/scf  
Maximum Natural Gas Consumption During Flaring: 514,800 ft3/yr  
Maximum Ammonia Consumption by Flare During Flaring: 37,897 ft3/hr  
Maximum Ammonia Consumption by Flare During Flaring: 11,369,100 ft3/yr

**Ammonia Consumption Emissions**

Temperature: 60 F  
Gas Constant: 0.7302 (atm\*ft3)/(lb mol\*R)  
Pressure: 1 atm  
NOx Emission Factor: 3.3 lb Nox/ton ammonia  
Mols of Ammonia Combusted per year: 29,942 mol/yr  
Pounds Ammonia Combusted per year: 510,000 lb/yr  
Pounds NOx emitted per year: 842 lb/yr  
Tons Nox emitted per year: 0.42 ton/yr

**Natural Gas Consumption Emissions**

Emission Factor in lb/ft3	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	7.60E-06	7.60E-06	6.00E-07	0.000	5.50E-06	8.40E-05
Flare Potential Emission in tons/yr	0.00	0.00	0.00	0.03	0.00	0.02

**Methodology**

Fuel heat content during idling is 390 Btu/scf.

Emission Factors are from AP42 (Supplement B 10/96), Table 1.4-1

Emission (tons/yr) = Natural Gas Consumption (ft3/yr) x Emission Factor (lb/ft3) / 2,000 lb/ton

**Appendix A: Emission Calculations**  
**Fugitive Emissions From Unpaved Roads**  
**Company Name: Koch Fertilizer Storage and Terminal Company**  
**Address City IN Zip: 4576 U.S. 231 North, Crawfordsville, Indiana 47933**  
**Permit Number: 107-16727-00053**  
**Plt ID: 107-00053**  
**Reviewer: ERG/KC**  
**Date: 11/14/02**

App A, Page 3 of 3

$$E \text{ (lb/VMT)} = \frac{k (s/12)^a (W/3)^b [(365-p)/365]}{(M_{dry}/0.2)^c}$$

Constant	PM10	PM
k	2.6	10
a	0.8	0.8
b	0.4	0.5
c	0.3	0.4

Factors	Semi-Trucks	Pickups
s (silt content %)	5	5
W (weight, tons)	13	2
p (rain days)	125	125
M <sub>dry</sub> (moisture content)	0.2	0.2

	Semi-Trucks	Pickups
PM E (lb/VMT)	6.79	2.67
PM10 E (lb/VMT)	1.53	0.72

	Semi-Trucks	Pickups
Vehicles/year	31390	1095
Miles traveled	0.125	0.125
Miles traveled/yr	3924	137

Note: Semi-truck data based on the maximum output of ammonia and the 20 ton/truck. Pickup data based on 8/15/97 permit application.

Emissions	Semi-Trucks	Pickups
PM	13.33	0.18
PM10	2.99	0.05
Total	16.32	0.23